

11.(Amended) An aircraft, including:

a wing having a trailing edge and deflectable control surfaces located along the trailing edge, the wing capable during flight of generating a normal lifting force having a spanwise force distribution across the wing; and

reconfiguration means for selectively reconfiguring the control surfaces to a plurality of predetermined positions as required to optimize the spanwise force distribution across the wing for each of a plurality of different flight conditions.

19.(Amended) A method for controlling flight of a blended-wing aircraft which includes a wing having a trailing edge and control surfaces located along the trailing edge which are deflectable in upward and downward directions, the wing being capable during flight of generating a normal lifting force having a spanwise distribution across the wing, the method including the steps of:

reconfiguring the control surfaces upwardly or downwardly to a plurality of predetermined positions as required to optimize the spanwise force distribution across the wing for each of a plurality of different flight conditions, and to simultaneously control trim.

REMARKS

Claims 1-20 are pending in the present application. By this Amendment, Applicant has amended independent Claims 1, 11 and 19 in order to more clearly define the presently claimed invention. Support for the changes can be found in the disclosure, including the claims and drawings of the present invention, as originally filed. Accordingly, Applicant respectfully requests admittance and entry thereof.

The drawings are objected to in Form-948 attached to the Office Action under 37 C.F.R. 1.84 for having nonconforming margins. Applicant will more than will file formal

drawings that overcome the objections stated on Form-948 upon receipt of a Notice of Allowability.

Before addressing the specific rejection of the claims set forth in Para. 2 of the Office Action, a brief review of the novel features of the present invention might be useful. The present invention is concerned with the difficulty of optimizing the aerodynamic characteristics of an aircraft, and especially a tailless aircraft, as the aircraft journeys through a number of flight regimes. Applicant discovered that the “..amount and direction of each control surface ...[can be]...determined so as to optimize the spanwise lift distribution across the wing for each of a variety of flight conditions.” See page 3, lines 20, 21 and page 4, line 1. As a result, the control surfaces can be deflected to predetermined optimal positions as the aircraft experiences a specific flight condition. These predetermined settings ensure that the control surfaces achieve optimal performance for various flight conditions such as cruise, pitch maneuver and low speed flight as would occur on landing. See page 4, lines 1-6.

Turning again to the Office Action, in para. 2, Claims 1-20 stand rejected under 35 USC 102(b) as being anticipated by Ashkenas. Applicant respectfully traverses this prior art rejection. To sustain a rejection under 35 USC 102(b), the invention must be patented or described ...more than one year prior to the date of application for patent in the United States. It is respectfully submitted that Ashkenas fails to meet the conditions required for a rejection under 35 USC 102 for the reasons set forth below.

Ashkenas is directed to “a means and method of controlling tip stall in airplanes having swept-back wing panels.” See col. 1, lines 2-4. While Ashkenas describes a wing W having elevons 4 and split rudders 5 and landing flaps 6, there is no suggestion of coordinating the flaps with either the elevons or rudders to optimize performance in different flight regimes, much less setting the various control surfaces to predetermined positions to ensure optimal flight as presently claimed. It is believed that the Examiner

recognizes that Ashkenas does not expressly teach the present invention because the Examiner states that such change of positions would be "inherent". There is no question that Applicant did not invent the general concept of controllable wing surfaces. Rather, the Applicant invented a control surface reconfiguration system in which all the surfaces are selectively reconfigurable to a plurality of predetermined positions, as required, to optimize performance in various flight regimes. The amended claims presented herein are directed to this inventive concept.

The Office Action merely states that such a system would be inherent from the mere fact the control surfaces are present. There is simply no teaching, prior to the Applicant's present disclosure, of a reconfiguration system using predetermined settings as claimed, i.e., "wherein the control surfaces are selectively reconfigurable to a plurality of predetermined positions as required to optimize the spanwise force distribution across the wing for each of a plurality of different flight conditions".

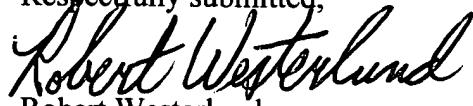
Clearly, there is no reason to believe Ashkenas was aware of the need for such a system. Ashkenas was only concerned with preventing wing tip stall and described a wing tip slot 10 for achieving the desired result. For this reason, the rejection under 35 U.S.C. 102 should be withdrawn. Likewise, any future rejection under 35 U.S.C. 103 based solely on Ashkenas would not be proper because there is no suggestion in Ashkenas of even the problem, much less the unique solution of the present invention.

Applicant has carefully reviewed the additional patents cited by the Examiner, but not applied to the claims. None of the these patents appears to describe a reconfiguration system where a plurality of control surfaces are deflected to predetermined positions to optimize performance as claimed.

By this Amendment, Applicant has made a sincere effort to place this case in final condition for allowance. However, if it deemed that there remain any additional issues to

be resolved, the Examiner is invited to call Applicant's undersigned representative prior to taking any further formal action in this case.

Respectfully submitted,


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